

## REMARKS

### **35 U.S.C. §103(a) Rejection**

Claims 1-3, 5-7, 10-11, 16-18, 20-23, 25-26, 28-30, 32-35, 37-38 and 44 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,259,996 to Haun ("Haun") in view of U.S. Patent No. 4,589,052 to Dougherty ("Dougherty") and in view of U.S. Patent No. 5,107,208 to Lee ("Lee '208").

#### **A. Haun Cannot be Considered When Determining Whether the Applicant's Invention is Obvious Under § 103.**

Before subject matter can be considered in a § 103 obviousness analysis, it must be determined whether the subject matter qualifies as a reference under § 102(a), (b), (e), (f), or (g). *See Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568, 1 U.S.P.Q.2d 1593, 1597 (Fed. Cir. 1987); M.P.E.P. § 2141.01. *See also Oddzon Prods., Inc. v. Just Toys, Inc.*, 122 F.3d 1396, 1401-02, 43 U.S.P.Q.2d 1641, 1644-45 (Fed. Cir. 1997) (holding that, for the purposes of § 103, prior art includes references described in §102(a), (b), (e), (f), and (g), but not § 102(c) and (d)). Since Haun is not a proper reference under any of the relevant subsections of § 102, Haun cannot be used as prior art in a § 103 obviousness analysis.

#### **1. Haun is Not a Proper § 102(a) Reference Because the Date Haun Became an Effective Reference Was Subsequent to the Applicant's Date of Invention.**

A patent is barred under § 102(a) if the invention was "known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant." 35 U.S.C. § 102(a) (2000). Haun did not become an effective prior art reference under § 102(a) until July 10, 2001, the date Haun issued.

Only public knowledge qualifies as prior art within the meaning of § 102(a). *See Carella v. Starlight Archery & Pro Line Co.*, 804 F.2d 135, 139, 231 U.S.P.Q. 644, 646 (Fed. Cir. 1986);

*In re Lund*, 376 F.2d 982, 991, 153 U.S.P.Q. 625, 633 (C.C.P.A. 1967). Similarly, a publication only becomes an effective reference if the publication is publicly accessible. *See In re Cronyn*, 890 F.2d 1158, 1160, 13 U.S.P.Q.2d 1070, 1071-72 (Fed. Cir. 1989). Patent applications that have not been published are kept in confidence by the PTO. 35 U.S.C. § 122(a) (2000); 37 C.F.R. § 1.14(a) (2004). As a patent filed prior to November 29, 2000, the subject matter contained in Haun was never published prior to the patent issuing. Therefore, the date Haun issued was the first day the subject matter contained in Haun was publicly known or described in a printed publication. *C.f.* M.P.E.P. § 901.03 (“U.S. patent applications are prior art under 35 U.S.C. 102(a) and (b) as of the publication date.”).

Since Haun was not publicly known or described in a printed publication until July 10, 2001, Haun is not an effective § 102(a) reference until that date. The invention in the present application was conceived prior to July 10, 2001. *See* Exhibit A, Decl. of Robert F. Dvorak, ¶2 and Exhibit B, Decl. of Kon B. Wong, ¶2. An invention disclosure statement setting forth the invention date and the reduction to practice illustrates that the invention was reduced to practice before July 10, 2001. Ex. A at ¶3 and Ex. B at ¶3. Therefore, because the Applicant’s date of invention was prior to the date Haun became an effective § 102(a) reference, the subject matter in Haun was not publicly known or described in printed publication prior to the invention of the subject matter by the Applicant. As such, Haun cannot be used a reference under § 102(a).

**2. Haun Does Not Qualify as a Reference Under § 102(b) Because the Publication Date of Haun is Less Than One Year From the Filing Date of the Patent Application.**

Under § 102(b), a patent will not be granted if “the invention was patented or described in a printed publication in this or a foreign country ... more than one year prior to the date of the application for patent.” 35 U.S.C. § 102(b) (2000). As previously discussed, Haun did not

become a publication until Haun issued on July 10, 2001. The present application was filed three months later on October 17, 2001. Therefore, the subject matter in Haun was not described in a printed publication more than one year prior to the date the present application was filed, so Haun is not a reference under § 102(b).

**3. Since Haun and the Present Application Were Both Subject to Assignment to a Common Assignee, § 103(c) Prevents Haun From Being Used as a § 102(e), (f), or (g) Reference in an Obviousness Analysis.**

A patent is precluded under § 102(e) if the “invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant.” 35 U.S.C. § 102(e)(2) (2000). Under § 102(e), subject matter described in an issued patent is effective as a reference as of the date the issued patent was filed. *See In re Wertheim*, 646 F.2d 527, 532-33, 209 U.S.P.Q. 554, 560 (C.C.P.A. 1981).

However, Haun cannot be used as a § 102(e) reference in connection with an obviousness analysis. For patent applications filed on or after November 29, 2000, subject matter which qualifies as prior art under §§ 102(e), (f), or (g) is prevented from being used in a § 103 obviousness analysis, if the subject matter and the invention in the application were owned by the same person or subject to assignment to the same person, at the time the invention was made. 35 U.S.C. § 103(c) (2000); *Riverwood Int'l*, 324 F.3d at 1356n.2. The present application was on filed October 17, 2001. Haun and the present application were, at the time the invention of the present application was made, both subject to assignment to a common assignee, Square D Company. *See Exhibit C (Statement of Common Ownership)*. Therefore, § 103(c) applies, and an obviousness rejection cannot be made using Haun as a § 102(e) reference.

Similarly, § 103(c) also precludes the use of Haun as a § 102(f) or (g) reference in an obviousness analysis. *See* 35 U.S.C. § 103(c). Therefore, Haun cannot be used as a § 102(f) or (g) reference when determining whether the invention of the present application is obvious.

**B. Dougherty and Lee '208 Do Not Meet All Of The Rejected Claim Limitations**

As stated above, Haun is not prior art under the statute. Therefore, Dougherty and Lee '208 must meet all of the claim limitations of the rejected claims.

Independent claim 1 is directed to a system for determining whether arcing is present in an electrical circuit and comprises "a circuit for analyzing said sensor signal to determine the presence of broadband noise in a predetermined range of frequencies" and a controller for processing said sensor signal and an output signal from the circuit. Neither Dougherty nor Lee '208 disclose such a circuit. Dougherty is directed to a digital implementation of an overcurrent determination and a time delay. Dougherty, Abstract. Lee '208 is directed to a system for providing testing capability of individual sub-modules on an integrated circuit. Lee '208, Abstract. Neither Dougherty or Lee '208, alone or in combination, mention determining the presence of broadband noise and then using the presence of broadband noise to determine whether an arcing fault is present. Thus, for at least this reason, claim 1 and its dependents, claims 2-3, 5-7, 10-11, and 44 are believed to be allowable over the combination of Dougherty and Lee '208.

Independent claim 16 is directed to a method for determining whether arcing is present including "analyzing said sensor signal to determine the presence of broadband noise in a predetermined range of frequencies and producing a corresponding output signal" and processing the sensor signal and an output signal to determine whether an arcing fault is present in the circuit. As stated above, neither Dougherty nor Lee '208, alone or in combination, disclose

analyze a sensor signal to determine the presence of broadband noise and then use that analysis to determine whether arcing is present. Therefore, for at least this reason, independent claim 16 and its dependents, 17, 18, 20-23, 25-26 are believed to be allowable over the combination of Dougherty and Lee '208.

Independent claim 28 is directed to a system for determining whether arcing is present comprising "a means for analyzing said sensor signal to determine the presence of broadband noise in a predetermined range of frequencies, and producing a corresponding output signal," and a means for processing the sensor and output signals to determine whether an arcing fault is present. As stated above in reference to claim 1, neither Dougherty nor Lee '208, alone or in combination disclose such a means. Thus, for at least this reason, claim 28 and its dependents, claims 29, 30, 32-35, and 37-38 are believed to be allowable over the combination of Dougherty and Lee '208.

Dependent claim 8 was rejected under 35 U.S.C. §103(a) as being unpatentable over Haun in view of Dougherty, Lee '208, and U.S. Pat. No. 5,774,555 to Lee ("Lee '555"). As stated above, Haun is not prior art, and neither Dougherty nor Lee '208, alone or in combination include all of the limitations of claim 1. Lee '555 does not cure the deficiencies of the combination of Dougherty and Lee '208. Lee '555 is directed to an apparatus for detecting a switched bandpass signal. See Lee '555, Abstract. Lee '555 does not disclose analyzing a sensor signal to determine the presence of broadband noise and then using that information to determine whether an arcing fault is present. Therefore, for at least this reason, claim 8 is believed to be allowable over the combination of Dougherty, Lee '208, and Lee '555.

Claims 9, 24, 36, and 40 were rejected under 35 U.S.C. §103(a) as being unpatentable over Haun in view of Dougherty, Lee '208, and U.S. Patent No. 6,054,887 to Horie et al.

("Horie"). Claims 9, 24, 36, and 40 all depend from either independent claim 1, 16, or 28, and thus include all of the limitations of these claims. As stated above, Haun is not prior art, and neither Dougherty nor Lee '208, alone or in combination include all of the limitations of claim 1. Horie does not cure these deficiencies. Horie is directed to an offset voltage correction circuit and does not deal with determining whether an arcing fault is present at all, let alone using the presence of broadband noise for this purpose. Therefore, for at least this reason, claims 9, 24, 46, and 40 are believed to be allowable over the combination of Dougherty, Lee '208, and Horie.

Claim 13 was rejected under 35 U.S.C. §103(a) as being unpatentable over Haun in view of Dougherty, Lee '208, and U.S. Patent No. 5,784,020 to Inoue ("Inoue"). Claim 13 is dependent upon independent claim 1. As stated above, Haun is not prior art, and neither Dougherty nor Lee '208, alone or in combination include all of the limitations of claim 1. Inoue does not cure these deficiencies. Inoue is directed to an analog to digital converting device which substantially increases the number of input channels without increasing the number of input terminals. Inoue also does not deal with using broadband noise to determine whether an arcing fault is present. Therefore, for at least this reason, claim 13 is believed to be allowable over the combination of Dougherty, Lee '208, and Inoue.

Claims 14 and 15 were rejected under 35 U.S.C. §103(a) as being unpatentable over Haun in view of Dougherty, Lee '208, and US. Patent No. 5,224,006 to MacKenzie et al. ("MacKenzie"). Claims 14 and 15 are both dependent upon claim 1 and, thus, include all of the limitations of these claims. As stated above, Haun is not prior art, and neither Dougherty nor Lee '208, alone or in combination include all of the limitations of claim 1. MacKenzie does not cure the deficiencies of the combination of Dougherty and Lee '208. MacKenzie is directed to a circuit breaker bandwidth that limits a sensed rate of change of current,  $di/dt$ , in the neutral

conductor of a protected electrical system and that fullwave rectifies the bandwidth limited di/dt signal for comparison with an instantaneous trip reference signal. MacKenzie does not disclose determining the presence of broadband noise and then using this determination to determine whether an arcing fault is present. Therefore, for at least this reason, claims 14 and 15 are believed to be allowable over Dougherty, Lee '208, and MacKenzie.

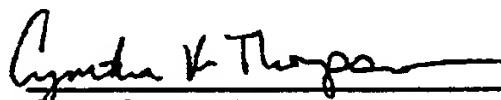
#### **Conclusion**

It is the Applicants' belief that all the claims are now in condition for allowance and action towards that effect is respectfully requested.

If there are any matters which may be resolved or clarified through a telephone interview the Examiner is requested to contact the undersigned attorney at the number indicated.

Respectfully submitted,

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